

### ABSTRACT

Method and system are disclosed for automated calibration of the VCO gain in phase modulators. The method and system of the invention comprises synthesizing, in a phase modulator, a signal having a given output frequency using a controlled oscillator  
5 having a frequency control input, a modulation input, and a feedback loop. A frequency control signal is applied to the frequency control input, and gain variation of the controlled oscillator is compensated for outside of the feedback loop via the modulation input. The method and system of the invention may be employed in any telecommunication system that uses phase and amplitude modulation, including EDGE and WCDMA systems.